



Docket No.

199858US2SRD/h

THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: Kouichi ICHIMURA, et al.

SERIAL NO: 09/714,193

GAU: 2184

FILED: November 17, 2000

EXAMINER:

FOR: METHOD FOR QUANTUM INFORMATION PROCESSING AND QUANTUM INFORMATION PROCESSOR

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97

ASSISTANT COMMISSIONER FOR PATENTS  
WASHINGTON, D.C. 20231

RECEIVED

JUN 21 2001

SIR:

Applicant(s) wish to disclose the following information.

Technology Center 2100

REFERENCES

- ☒ The applicant(s) wish to make of record the references listed on the attached form PTO-1449. Copies of the listed references are attached, where required, as are either statements of relevancy or any readily available English translations of pertinent portions of any non-English language references.
- ☐ A check is attached in the amount required under 37 CFR §1.17(p).

RELATED CASES

- ☐ Attached is a list of applicant's pending application(s) or issued patent(s) which may be related to the present application. A copy of the patent(s), together a copy of the claims and drawings of the pending application(s) is attached along with PTO 1449.
- ☐ A check is attached in the amount required under 37 CFR §1.17(p).

CERTIFICATION

- ☐ Each item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.
- ☐ No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37-CFR §1.56(c) more than three months prior to the filing of this statement.

DEPOSIT ACCOUNT

- ☒ Please charge any additional fees for the papers being filed herewith and for which no check is enclosed herewith, or credit any overpayment to deposit account number 15-0030. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.

*Joseph A. Scafetta Jr.*

Marvin J. Spivak  
Registration No. 24,913

Joseph A. Scafetta, Jr.  
Registration No. 26,803

RECEIVED

JUL 17 2001

TC 2800 MAIL ROOM



22850

Tel. (703) 413-3000  
Fax. (703) 413-2220  
(OSMMN 10/98)

RECEIVED  
JUL - 9 2001  
TC 2800 MAIL ROOM

TC 2800 MAIL ROOM

JUN 25 2001

RECEIVED

RECEIVED

JUL 05 2001



DOCKET NO: 199858US2SRD

Sheet 1 of 1

SERIAL NO: 09/714,193

Group Art Unit: 2184

STATEMENT OF RELEVANCY

RECEIVED

JUN 21 2001

**Reference AD (JP 10-254569) on Form 1449:**

Technology Center 2100

This reference discloses qubits defined in frequency domain. The qubits consist of fullerenes and carbon nanotubes which include metal atoms or molecules and organic molecules. The manufacturing of the qubits is likely very difficult and it is difficult to maintain a superposition state of a qubit because of short decoherence time of electronic excited states.

**Reference AH on Form 1449:**

This reference refers to qubits defined in frequency domain. However, the qubits consist of nuclear spins in a molecule, and it is almost impossible to scale up the number of the qubits for practical solution of a problem.

**Reference AI on Form 1449:**

This reference refers to qubits of solid state materials in an optical cavity, but it describes nothing about qubits defined in frequency domain.

**References AJ through AQ on Form 1449 are discussed in the specification**

RECEIVED  
JUL 17 2001  
TC 2800 MAIL ROOM

RECEIVED  
JUL 05 2001  
Technology Center 2100  
RECEIVED  
JUL -9 2001  
TC 2800 MAIL ROOM